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1883). A mixture of equal parts of glycerin and alcohol was recommended by STRASBURGER (Das botanische Practicum 1884, p. 79) for facilitating the cutting of woody tissues. EYCLESHYMER (Amer. Naturalist **34**: 354–357. 1892, and Jour. Roy. Micr. Soc. **1892**: 563–565) describes a series of four grades of celloidin for infiltrating, chloroform for hardening, and a treatment with glycerin before cutting. In view of these facts, we do not doubt that others, who like ourselves have used STRASBURGER'S method for softening woody tissues, have continued to use the glycerin and alcohol mixture when dealing with material imbedded in celloidin.

Mr. PLOWMAN has certainly presented the subject in a very usable form, and in perfecting the application of fluoric acid he has made it possible to obtain better sections of refractory tissues. In my "correction" I intended merely to lodge an objection to the characterization of my account as a second-hand presentation of Dr. JEFFREY'S methods. A study of LEE'S *Vade Mecum* and the references there cited indicates that Dr. JEFFREY, like myself, is deeply indebted to previous investigators.—CHARLES J. CHAMBERLAIN.

I HAVE been permitted to read the proof of Dr. CHAMBERLAIN'S comment on my letter. Matters have now resolved themselves into a difference of opinion between Dr. CHAMBERLAIN and myself as to what constitutes novelty and improvement in celloidin technique. I am very willing to allow the case to rest on the practical value of the method published by Mr. PLOWMAN.—E. C. JEFFREY.

AN ABNORMAL AMBROSIA.

(WITH THREE FIGURES)

A PLANT of *Ambrosia artemisiaefolia* that had been run over by a wagon and badly injured bore both staminate and pistillate flowers in an abnormal condition. The young shoots bearing the flowers arose vertically from the prostrate and injured main stem.

The staminate flowers of this injured plant appeared larger than the normal. The heads were scattered, forming a loose raceme, and each contained fewer flowers than usual. In the center of the older flower heads there was a group of buds that appeared to be vegetative (*fig. 1*), while the younger heads contained vegetative buds only within the bracts enclosing the heads, the flowers having been entirely replaced. Instead of the sterile style the older staminate flowers bore vegetative buds in the center (*fig. 2*). The pollen of these flowers appears to have been arrested

in development. In some cases the grains were shriveled and not well formed, in other cases the pollen seemed to have been checked just beyond the tetrad stage.

The pistillate flowers of the same plant bore no ovules, but instead of them there were small vegetative buds (*fig. 3*). These flowers were not clustered as usual, but were mostly in the axils of leaf-like bracts, for the most part being considerably separated and forming a very loose raceme. The styles were glandular at tip only. In tracing the development, the bud appeared very early replacing the ovule, and the parts of the flower were more lengthened. A rudimentary ring-like outgrowth appeared just beneath the carpel, corresponding to the corolla of the staminate flower (*fig. 3, p*).

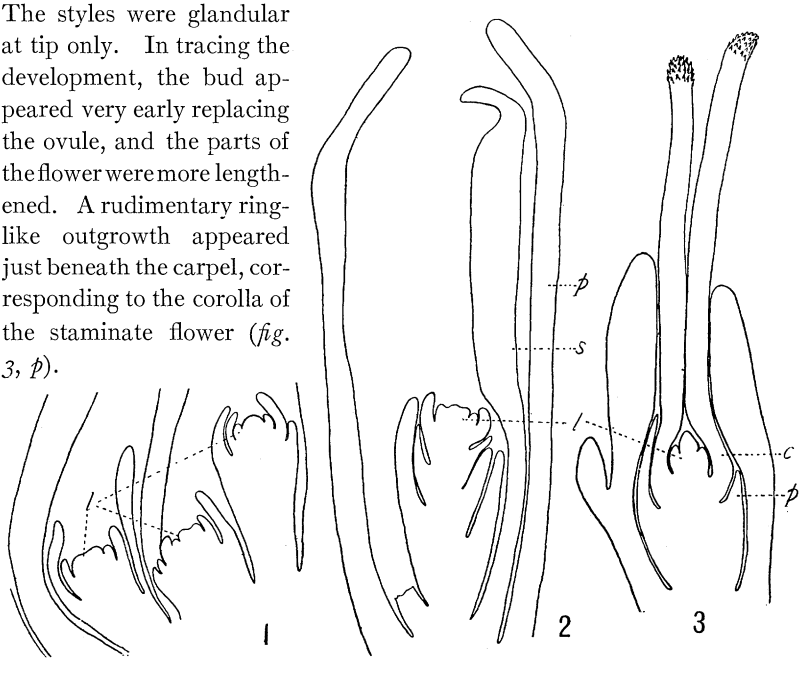

FIG. 1.—Vegetative buds (*l*) in the center of a staminate head.
FIG. 2.—A vegetative bud (*l*) replacing the sterile style; *s*, stamen; *p*, corolla.
FIG. 3.—A vegetative bud (*l*) replacing the ovule; *c*, carpel; *p*, corolla.

All the staminate flowers examined had styles more or less rudimentary. In some of the marginal flowers the styles protruded beyond the corolla and were terminated by a disk fringed by glandular hairs. Ovules were not formed in any specimen, but a tissue that had the appearance of a rudimentary ovule was seen in some flowers.

It would appear that under the abnormal conditions described the primordia that usually form reproductive parts produced vegetative parts. —A. C. LIFE, *Shaw School of Botany, St. Louis, Mo.*